April 7, 1936.

R. A. RINGSEIS

2,036,541

KEY GUIDE

Filed Dec. 16, 1935

FIG. 1.

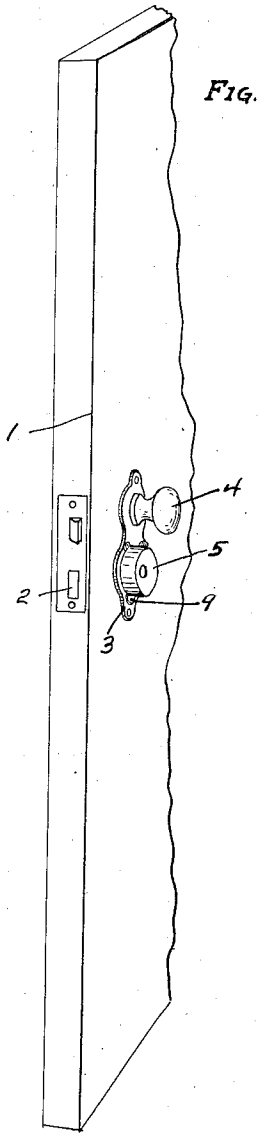


FIG. 2.

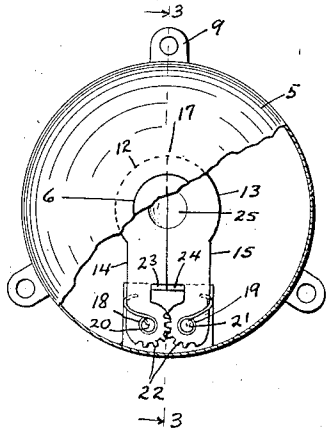
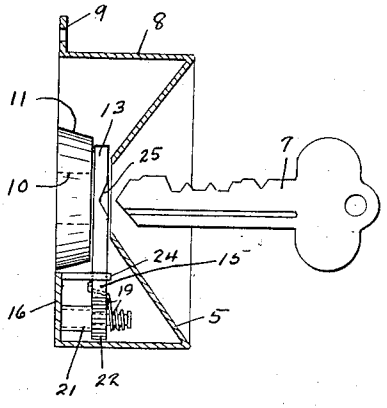


FIG. 3.



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Patented Apr. 7, 1936 2,036,541

UNITED STATES PATENT OFFICE

2,036,541

KEY GUIDE

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Application December 16, 1935, Serial No. 54,596

5 Claims. (Cl. 70—16)

This invention relates to funnel-like devices for guiding keys into keyholes and has for its objects improvements in such guides which will adapt the device to the better guiding of flat keys of the Yale type in corresponding locks. Other features and advantages of the invention will appear in the following description and accompanying drawing.

In the drawing Fig. 1 is a perspective view of my flat key guiding device fitted to the outer escutcheon of a door lock.

Fig. 2 is a substantially full-size front view of the device with part of the front funnel-shaped wall broken away to show the interior mechanism.

Fig. 3 is a vertical cross section of Fig. 2 taken along the line 3—3 thereof.

Before describing my invention in detail it is desired to state that prior funnel-like devices for guiding keys to keyholes, such as shown in Patents Nos. 1,217,798 and 1,324,622, issued respectively to D. P. Mahon, Feb. 27, 1917, and C. H. May, July 12, 1921, could only be used with common door keys having a round shank to the rear of the flat bolt operating portion or "bit" which passes completely into the lock, for such a slotted funnel if used for a flat cylinder lock type of key which is full width clear up to the handle would not permit the key to be turned. To overcome this I provide a key-guiding funnel or cone with a round hole in its inner end large enough to permit the flat type of key to project through the round hole into the narrow slot of the lock and still turn around in the round hole of the funnel or cone. However, with this much only, the device would lack any means of guiding a flat key into the narrow or flat keyhole slot of the lock as the hole at the inner end of the funnel or cone being round and large, the end of the flat key could strike the outer end of the lock barrel anywhere within the area of the round funnel hole, and therefore I provide a pair of spring-actuated centering jaws at the inner end of the funnel or cone to cooperate with the funnel and guide the key from its inner end into the slot. Similar centering plates per se have been used as lock covers, but not, insofar as I am aware, in combination with a key-guiding funnel-like device or plate having a round hole, so as to guide a flat key into the lock barrel slot and permit the flat key to turn in the funnel, as in my invention.

In the drawing 1 indicates the front door of a house, 2 the lock bolt, 3 the outer escutcheon, 4 the doorknob, and 5 my special funnel-like device or cone secured to the escutcheon as by screws or rivets 6, though it is manifest that for new locks it is preferable to make the funnel device integral with the escutcheon plate.

In Figs. 2 and 3 the funnel or cone 5 will be seen to be round (though it may be any shape), and provided with a round hole 6 at its inner end large enough to receive the flat key 7 and permit it to revolve. The funnel has an enclosing side wall or casing 8 and rivet or screw lugs 9 for securing it to the escutcheon, with the round hole 6 of the funnel centered above the key slot 10 in the cylinder or barrel 11 of the lock and with the inner end of the funnel spaced about a quarter inch or less outward from the face of the lock to make room for a pair of key-centering jaws or plates 12, 13, having shanks 14, 15, which are pivoted respectively at 20, 21, to a rear flange 16 of the casing and formed with two half-disk portions (12, 13) overlying the face of the lock barrel and meeting one another along a vertical line 17 when closed through the action of small coiled springs 18, 19 mounted on the pivot pins or elsewhere. The shanks 14, 15 of these plates are formed with spur gear teeth 22 which engage in a manner to force the plates to operate in unison when pried apart by the nose of the key and therefore always come to closed position centered over the key slot when the key is withdrawn, though, if desired, the rear flange 16 may be provided with forwardly bent lugs 23, 24 positioned between the shanks 14, 15 of the centering plates when closed so as to further insure them against displacement. At a point substantially central over the key slot, the plates 12, 13 are chamfered off funnel-like as at 25 to form an entering place for the tapered or rounded nose provided on the flat type of keys referred to.

By the arrangement of parts provided, if a flat key is held with sides substantially vertical and pushed into the funnel, it will be guided to the bottom, and whereupon the small funnel-like chamfered depression 25 at the point of separation of the jaws, forming substantially a continuation of the funnel, will guide the key directly into the slot of the lock barrel as the jaws spring open equally to both sides of the slot. The jaws do not revolve with the lock barrel as they are independent thereof, but open wide enough to permit the flat key to turn between them, and when the key is withdrawn they snap to closed position shown in Fig. 2.

The funnel is preferably made of some non-corrodible metal, and may be any size or depth, though it is contemplated that for automobile dashboard locks the funnels will be relatively

small, yet aid greatly for locating the flat key slots in such locks at night.

Having thus described my invention, what I claim is:

1. A keyhole guiding device for flat type keys of cylinder type locks, comprising a funnel arranged and adapted to be positioned outside of a lock cylinder with its small end apertured large enough to permit the flat shank of the key to turn around therein, said aperture substantially centered over the key slot of the lock, and means positioned between the said small end of the funnel arranged to cooperate with said funnel in guiding the flat key to the slot in the lock.

2. A keyhole guiding device for flat keys of cylinder type locks comprising a funnel-like plate with an aperture in its small end large enough for the key to turn around in, and a pair of movable jaws under the aperture in the plate mounted in a manner to close in abutting relation across said aperture with their parting line extending centrally thereacross, means resiliently urging the jaws to closed position, and a tapered notch formed at the meeting edges of the jaws in position to cooperate with said funnel-like plate in guiding the key to a keyhole slot of the lock.

3. A keyhole guiding device for flat keys of cylinder type locks comprising a funnel-like plate with an aperture in its small end large enough for the key to turn around in, and a pair of movable jaws under the aperture in the plate mounted in a manner to close in abutting relation across said aperture with their parting line extending centrally thereacross, means resiliently urging the jaws to closed position, means forcing the jaws to positively cooperate in opening and closing, and a tapered notch formed at the meeting edges of the jaws in position to cooperate with said funnel-like plate in guiding the key to a keyhole slot of the lock.

4. A structure as specified in claim 2, shanks extending from said jaws, an extension on said funnel-like plate and means pivoting said shanks to said extension for opening and closing movement.

5. A structure as specified in claim 2, shanks extending from said jaws, an extension on said funnel-like plate, intermeshing gear teeth formed on said shanks, and means pivoting said shanks to said extension for opening and closing movement.

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